TABLE 2.—*Vapor pressures at pyrheliometric stations on days when solar radiation intensities were measured.*

Washington, D. C.			Madison, Wis.			Lincoln, Nebr.		
Date.	8 a. m.	8 p. m.	Date.	8 a. m.	8 p. m.	Date.	8 a. m.	8 p. m.
1917.	*mm.*	*mm.*	1917.	*mm.*	*mm.*	1917.	*mm.*	*mm.*
Aug. 2	21.28	17.37	Aug. 1	16.79	10.21	Aug. 1	14.10	8.81
3	12.68	17.37	2	10.21	12.68	3	12.68	18.72
4	12.24	13.13	3	11.38	12.24	4	15.11	17.96
6	15.11	18.59	6	9.83	10.59	8	14.10	17.37
9	17.37	19.89	10	8.81	9.83	9	9.83	7.04
10	11.81	13.61	11	9.83	10.59	10	8.18	9.83
11	13.13	14.10	15	11.38	14.60	13	10.21	11.81
17	16.20	13.61	16	15.11	13.61	17	14.10	13.61
18	11.38	12.68	17	11.38	10.59	18	13.61	22.76
20	14.60	17.96	18	10.59	12.24	21	14.60	15.65
25	15.11	9.47	19	12.24	14.10	22	14.10	17.37
26	9.83	11.38	20	14.10	16.20	23	9.83	7.57
27	10.21	12.24	25	7.04	10.21	24	7.04	8.18
28	12.24	15.11	29	9.14	8.18	25	8.48	10.59
			30	9.14	8.81	30	8.18	8.18
			31	9.47	8.48	31	10.21	13.13

TABLE 3.—*Daily totals and departures of solar and sky radiation during August, 1917.*

[Gram-calories per square centimeter of horizontal surface.]

Day of month.	Daily totals.		Departure from normal.		Excess or deficiency since first of month.	
	Washington.	Madison.	Washington.	Madison.	Washington.	Madison.
1917.	*calories.*	*calories.*	*calories.*	*calories.*	*calories.*	*calories.*
Aug. 1	307	502	−179	24	−179	24
2	486	299	2	−176	−177	−152
3	533	597	52	124	−125	−28
4	611	535	132	65	7	37
5	614	499	138	31	145	68
6	560	529	86	64	231	132
7	415	272	−57	−191	174	−59
8	401	355	−68	−105	106	−164
9	520	402	53	−56	159	−220
10	609	637	144	182	303	−38
11	539	539	77	86	380	48
12	507	85	47	−365	427	−317
13	511	374	53	−74	480	−391
14	440	540	−15	95	465	−296
15	320	583	−133	140	332	−156
16	343	553	−108	112	224	−44
17	533	595	85	157	309	113
18	609	562	163	127	472	240
19	553	370	110	−62	582	178
20	531	546	90	116	672	294
Decade departure					+369	+332
21	515	303	77	−124	749	170
22	299	432	−137	8	612	178
23	128	428	−305	7	307	185
24	411	193	−20	−225	287	−40
25	516	607	88	192	375	152
26	584	554	158	142	533	294
27	579	161	156	−248	689	46
28	568	558	147	152	836	198
29	435	560	17	157	853	355
30	249	529	−167	129	686	484
31	102	540	−312	143	374	627
Decade departure					−298	+333
Excess or deficiency since first of year. gram-cal.					−4,540	+1,373
Excess or deficiency since first of year. per cent					−4.7	+1.4

AURORA OF AUGUST 21, 1917.

[Approved by Division of Aerological Investigations.]

Mr. Douglas F. Manning, Alexandria Bay, N. Y., contributes the following note of an aurora observed August 21, 1917:

On August 21, 1917, between the hours of 8 p. m. and midnight, and how much later I do not know, an aurora occurred of no particular brightness or well-defined formation, but of intense activity and at apparently a much lower altitude than any other display I have ever witnessed. The nearest description that could be given it would be to say that a display of sheet lightning was taking place without clouds, so tremendous was the speed of the yellow-greenish flashes of light that had their origin about 20° above the northern horizon, extending to about 5° south of the zenith whence they died out.

The sky was crystal clear, with a cool, brisk north wind blowing, and I regret that there were no clouds present so that I could [have formed] an estimation of the altitude of this aurora. The illusion of their presence in about the region occupied by the strato-cumulus was perfect; not only that, but the tremendous speed of the flashes with the ill-defined formation all seemd to prove that this aurora occurred at no very great height.

AURORA OF AUGUST 25, 1917, AT WASHINGTON, D. C.

American University (*Massachusetts and Nebraska Avenues*).—A brilliant display of the aurora borealis was observed at the American University from about 9 to 10 p. m. on August 25. When first observed (8:50 p. m.) it had the appearance of a bank of haze through which the beams of a searchlight might be shooting. It was soon apparent, however, that the display was an electrical one as streamers began shooting upward in rapid succession.

When at its maximum an arch 60° in length, 15° in height, 5° in width, was centered about the magnetic north the ends disappearing in a low bank of haze on the horizon. From this arch shooting upward were beautiful streamers of red and white. At about 9 p. m. (75th mer. time) a patch of brilliant red appeared about 15° east of north and directly above the arch. While similar patches were visible at the same and other points during the evening, this one far exceeded in brilliancy any of the others, appearing as a sky might from reflection of an intense fire.

At 9:10 p. m. a brilliant patch appeared directly above the lower left end of the arch. This had the form of a cirrus cloud, but was brilliantly colored with blue.

About 9:15 p. m. to 9:20 p. m. the streamers became varied in color, the white and red predominating. At 9:20 p. m. a secondary arch appeared about 5° above the first one, having the same distinct blue color of the lower arch.

The phenomenon ended shortly before 10 p. m.—*Irving F. Hand.*

Otterbourne, Chevy Chase (*Connecticut Avenue and Percy Street*).—Saturday night August 25, 1917, between 9:25 and 9:40 p. m. (75th meridian time), the undersigned observed from the point indicated in the margin, a characteristic auroral arch without any streamers. The arch was complete, about 10° high at its summit and had a horizontal extent of about 40° on the northern horizon. The summit seemed to be under Polaris. The light of the arch was a steady, pearly luminescence with a very slight suggestion of green. No dancing or pulsation was observed, although looked for. At about 9:30 there was, for a few seconds, a suggestion of a second and higher arch—or segment of one—forming about 1° above the center of the complete arch. Earlier and later observations could not be made owing to unfavorable location.—*C. Abbe, jr.*

551.593 (729.2)

PARHELIA 90° FROM THE SUN SEEN IN JAMAICA.[1]

By MAXWELL HALL.

[Montego Bay, Jamaica, May 1, 1917.]

On April 10, 1917, at about 8:40 a. m., local time, when the sun's altitude was about 40°, a most unusual phenomenon was seen by the Rev. G. E. Henderson and members of his family near Browns Town, namely, the parhelia or mock suns due to the intersection of the halo ring of 90° radius with the mock sun plane or ring parallel to the horizon.

Parhelia due to the intersection of the halo ring of 22° radius with the parhelic plane or ring are quite common; in the morning a sheet of thin cirro-stratus will often be

[1] *Reprinted from* Jamaica Weather Report No. 469, p. 5, on recommendation of Division of Aerological Investigations.